

# ANDREW CHU

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## EDUCATION

### University of Waterloo

Bachelor of Computer Science - Dean's Honours List

Expected Dec. 2028

Waterloo, ON

## SKILLS

**Languages:** Java, Python, C/C++, JavaScript, TypeScript, CSS, HTML, Go, Dart, PowerShell, Bash

**Frameworks:** React, Flask, TailwindCSS, SvelteKit, Firebase, Express, MongoDB, Jest, FastAPI, Next, MySQL, Supabase

**Developer Tools:** GCP, Linux, Git, GitHub, Node, Figma, Docker, AWS, VS Code, Postman, WSL, Vite, Vercel, Cursor

## EXPERIENCE

### Data Engineer Intern

Aug. 2024 - Sep. 2024

Alljoined

Toronto, ON

- Responsible for data preprocessing, **brainwave data collection pipeline**, and quality validation of collected data
- Identified a crucial timing issue in **EEG data preprocessing** by implementing a benchmarking system in **Python**
- Refactored **WebSocket** code to optimize data collection performance by **99%**, reducing latency to **10 ms**.
- Processed collected data by denoising, performing artifact correction using **NumPy**, **Pandas**, and **scikit-learn**
- Leveraged private cloud high-performance computing cluster using Linux to store processed data in a **data lake**

### Full-Stack Developer

Sep. 2022 - Jan. 2023

Digitera Interactive

Ottawa, ON

- Contributed to the "Skule News" project, a **mobile school news app** to streamline student communication
- Reduced frequency of in-app crashes by **20%** by resolving **6+** bugs resulting from incorrect **Firebase** queries
- Engineered **image preview feature** when uploading or editing articles in **Flutter**, enhancing user experience
- Designed and tested **Firebase Rules** to provide secure database access for a **role-based access control system**

### Logistics Lead

Sep. 2023 - Jun. 2024

YRHacks

Richmond Hill, ON

- Coordinated logistics for a 24-hour hybrid hackathon, accommodating **300+ high school participants**
- Ensured seamless event execution by managing event communication between hackers, volunteers, and the team
- Mentored 20+ participants in **Chrome API**, **Git** and **Python**, enhancing their coding skills and project outcomes

## PROJECTS

### EasyMeet.ca - Meetup Scheduling Website | React, Firebase, Mocha, GitHub, CI/CD, Figma, YAML

Jan. 2025

- Shipped a no-password mobile-first **meetup scheduling website** written in **React**, deployed at **easymeet.ca**
- Designed and tested **NoSQL Cloud Firestore** to protect user data from illegitimate database read and writes
- Automated **CI/CD** unit testing and deployment with build caching using **Mocha**, **Chai** and **GitHub Actions**

### Baseline - EEG Fatigue Tracker | Python, FastAPI, SciPy, NumPy, MNE, Matplotlib, React, Jupyter

Oct. 2024

- Developed Baseline, a **neurotech application that determines fatigue levels** in real-time by analyzing EEG data
- Achieved **2nd Place** in "**Best in Neurotech**" category at Hack49 among 120+ participants and 40+ projects
- Designed **data transformation pipeline** converting large misformatted brain data files into processable chunks

### The Spyglass - School Magazine Website | SvelteKit, TypeScript, TailwindCSS, GitHub

Jul. 2024

- Redesigned school magazine website with **responsive web design principles** for sharing and hosting 30+ articles
- Optimized site accessibility, raising lighthouse score to 100 using human-interaction concepts such as Fitt's Law

## AWARDS

### 2nd Place - DeltaHacks XI

Jan. 2025

Placed 2nd overall among 600+ competitors for VR fitness game, 'Layoff Evaders'

### 2nd Place and Best Web App - YRHacks 2023

Mar. 2023

Placed 2nd overall and won 'Best Web App' for facial recognition attendance tracker, 'Eyedentify'

### Best Use of API - YRHacks 2022

Apr. 2022

Won "Best Use of API" at YRHacks 2022 among 350+ competitors for Discord chat bot, 'Friend Bot'